

REMARKS

Please reconsider the application in view of the above amendments and the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claims 1-3, 6-9, 11, and 13-26 are pending in this application. Claims 1, 7, 9, 14, 17, and 20 are independent. The remaining claims depend directly or indirectly on claims 1, 7, 9, 14, and 17. Further, new claims 27 and 28 have been added.

Rejection(s) under 35 U.S.C § 103

Claims 1-3, 6-9, 11, 13-19, and 21-26 stand rejected under 35 U.S.C. § 103 (a) as obvious over U.S. Patent 6,233,622 (“Atsatt”) in view of Mayo. Claims 1, 7, 9, 14, and 17 have been amended by this reply to include the limitation, “wherein the properties object includes a data dictionary.” Support for these amendments may be found, for example, on page 13 of the instant specification. To the extent that this rejection still applies, this rejection is respectfully traversed.

The following is a brief description of one or more embodiments of the present invention, and is not intended to limit the scope of the claims. Embodiments of the invention provide a method and framework for building web applications in a simple, modular, and scalable manner. More specifically, embodiments of the invention provide a set of objects with which simple and complex web applications may be built. By designing web applications using the set of objects (*i.e.*, server object, handler object, request object, and properties object) described in the specification, web application developers will not only be able to streamline web application development due to the reduced complexity of programming using the modular framework disclosed in the present invention, but will also be able to create web applications on devices that were traditional excluded from web applications, such as digital thermometers, etc.

In addition by modularizing the web application, the web application may be designed to modularly process a request such that request is passed through a series of objects where each object performs a simple task and then forwards the request to the next module. As a result, the modular approach to processing a request allows the invention to be readily applied to simple web applications having basic functionality (performed by a small set of objects) and to complex web applications having complex functionality (performed by a large set of objects).

Specifically turning to the rejections, claim 1, as amended, recites a framework for creating an extensible web application. The framework includes a server object configured to receive a request for the a extensible web application, a request object configured to be called by the server object upon receiving the request, a first handler object, configured to respond to the request using the request object, and a properties object comprising information used by the first handler object, the server object, and the request object to respond to the request, wherein the properties object includes a data dictionary.

The Examiner admits that Atsatt does not teach or suggest a properties object as recited in claim 1. However, the Examiner asserted that Mayo discloses a properties object. The Applicant respectfully asserts that the properties **52-52n** shown in Mayo are not the same as the properties object recited in the claims. Specifically, each of the properties **52-52n** recited in Mayo corresponds to an “interface to a function” (Mayo, col. 8, ll. 10-12). Further, “the object **50** and its properties **52-52n** can be implemented using known programming language” (Mayo, col. 8, ll. 19-20). Thus, the object **50** and properties **52-52n** disclosed in Mayo are directed towards *executable program interfaces* that allow web server applications to interact/invoke the corresponding executable program.

In contrast, the properties object recited in amended claim 1 does not include interfaces to functions but rather includes a data dictionary containing variables (*e.g.*, grouped as name-value pairs) that may be used by any handler object, server object, etc., as required. More specifically, the data dictionary provides a location where global

variables may be stored and readily accessed by a handler object(s) currently processing a request from a client. Thus, Mayo does not disclose what Atsatt lacks.

In view of the above, Atsatt and Mayo, whether viewed separately or in combination, fail to show or suggest the present invention as recited in the amended claim 1. Thus, the claim 1, as amended, is patentable over Atsatt and Mayo for at least this reason. Dependent claims are patentable for at least the same reasons.

Further, independent claims 7, 9, 14, and 17, have similar limitations with respect to the properties object (*i.e.*, “wherein the properties object includes a data dictionary”) as claim 1. Thus, independent claims 7, 9, 14, and 17, and claims depending therefrom, are also patentable for at least the same reasons as claim 1. Accordingly, withdrawal of this rejection is respectfully requested.

Claim 20 stands rejected under 35 U.S.C. § 103 (a) as obvious over U.S. Patent 6,144,990 (“Brandt”) in view of U.S. Patent 6,529,936 (“Mayo”). Claim 20 has been amended by this reply to include the limitation, “wherein the properties object includes a data dictionary.” Support for this amendment may be found, for example, on page 13 of the instant specification. To the extent that this rejection still applies, this rejection is respectfully traversed.

Claim 20, as amended, recites a method of communicating with a device. The method includes receiving an HTTP request from a requester, extracting request information from the HTTP request wherein the request information includes commands for interacting with the device, calling a handler object with the request information, invoking the commands on the device, receiving device information from the device, returning device information via HTTP to the requester, wherein the handler object uses information from a properties object, wherein the properties object includes a data dictionary.

The Examiner admits that Brandt does not teach or suggest a properties object as recited in claim 20. However, the Examiner asserted that Mayo discloses a properties object. The Applicant respectfully asserts that the properties **52-52n** shown in Mayo are

not the same as the properties object recited in the claims. Specifically, each of the properties **52-52n** recited in Mayo corresponds to an “interface to a function” (Mayo, col. 8, ll. 10-12). Further, “the object **50** and its properties **52-52n** can be implemented using known programming language” (Mayo, col. 8, ll. 19-20). Thus, the object **50** and properties **52-52n** disclosed in Mayo are directed towards *executable program interfaces* that allow web server applications to interact/invoke the corresponding executable program.

In contrast, the properties object recited in amended claim 20 does not include interfaces to functions but rather includes a data dictionary containing variables (grouped as name-value pairs) that may be used by any handler object, server object, etc., as required. More specifically, the data dictionary provides a location where global variables may be stored and readily accessed by a handler object(s) currently processing a request from a client. Thus, Mayo does not disclose what Brandt lacks with respect to the claimed invention.

In view of the above, Brandt and Mayo, whether viewed separately or in combination, fail to show or suggest the present invention as recited in the amended claim 20. Thus, the claim 20, as amended, is patentable over Brandt and Mayo for at least this reason. Accordingly, withdrawal of this rejection is respectfully requested.

New Claims

Claims 27 and 28 recite a method and framework, respectively, for processing a web request from a web application. The request is received by the server object that prompts the generation of a request object to manage processing of the request. The request is then forwarded to request handler that processes the request. The handler object processes the request by sequentially invoking a plurality of interior node handler objects, wherein each of the plurality of interior node handler objects processes a portion of the request to obtain a partial result. The partial result is subsequently stored in the properties object. Support for these claims may be found, for example, on page 17 of the specification.

The Applicant respectfully asserts that neither Brandt, Mayo, or Atsatt, whether viewed separately or in combination, show or suggest the present invention as recited in new claims 27 and 28. Specifically, Brandt and Atsatt are directed towards providing an interface between a client and a particular application on a server. (See Figure 3 in Brandt and Figure 1 in Atsatt). However, neither Brandt nor Atsatt teach or suggest a handler object invoking a series of interior node handler objects wherein each of the interior node handler objects processes a portion of the request.

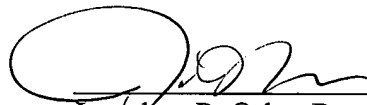
Further, Mayo teaches a method and apparatus for using the Internet to access a device to obtain content. Specifically, Mayo is directed towards a method and apparatus for interfacing with a device to obtain content using objects. However, Mayo does not teach or suggest the invention as recited in claims 27 and 28. Specifically, while claims 27 and 28 use objects to process a web request, the type and functionality of the objects recited in claims 27 and 28 are different than those disclosed in Mayo. The objects disclosed in Mayo are merely used to interface with the device and are not used to process the request in the manner recited by the claims, *i.e.*, using a plurality of interior node handler objects. Further, Mayo does not disclose the framework as recited in claim 28. Specifically, Mayo does not disclose the set of objects interacting in the same manner as recited in claim 28. In view of the above, claims 27 and 28 are patentable over Brandt, Mayo, and Atsatt.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 16159/142001).

Respectfully submitted,

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